ABSTRACT

A hand held data collector and analyzer achieves superior stability, accuracy and reliability through the use of a fixed frequency anti-aliasing filter and two analog to digital converters, one for high frequency signals and one for low frequency signals. Efficient digital filtering and decimation is achieved by providing specialized hardware filters and decimators and implementing software filters and decimators in a data processor. A true zoom method is employed to take advantage of the filtering and decimation capabilities, and independent digital signal processors operate serially on incoming signals to further reduce demands on the central processing unit. In addition, the RAM system memory is formatted as a pseudo-card to facilitate use of a PCMCIA memory card or the RAM system memory.

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